This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (previously presented): A computer-implemented method for determining user profile information for a user, the computer-implemented method comprising:

a) determining initial user profile information for the user using information included in past search queries submitted to a search engine by the user, wherein such information is independent of documents returned as search results to the past search queries;

b) inferring user profile information for the user; and

c) determining the user profile information for the user using both the initial user profile information and the inferred user profile information.

Claim 2 (canceled)

Claim 3 (currently amended): The computer-implemented method of claim 1 wherein the act of determining an initial user profile information for the user <u>further</u> uses past document selections by the user.

Claim 4 (canceled)

Claim 5 (previously presented): The computer-implemented method of claim 1 wherein the initial user profile includes a plurality of attributes, each of the plurality of attributes having a value and a score.

Claim 6 (previously presented): The computer-implemented method of claim 5 wherein the score indicates a likelihood that the value of the attribute is correct.

Claim 7 (previously presented): A computer-implemented method for determining user profile information for a user, the computer-implemented method comprising:

a) determining initial user profile information for the user;

b) inferring user profile information for the user; and

c) determining the user profile information for the user using both the initial user profile information and the inferred user profile information,

wherein the act of inferring user profile information for the user includes

i) defining a node for each of a number of documents and the user, wherein each node represents a particular one of the number of documents or the user,

ii) adding edges between nodes if there is an association between the nodes to define a graph, and

iii) inferring user profile information for the user using a topology of the graph and user profile information of other documents.

Claim 8 (previously presented): The computer-implemented method of claim 7 wherein an edge is added between first and second nodes if a document corresponding to the first node was returned in a search results page to a search query from the user corresponding to the second node.

Claim 9 (previously presented): The computer-implemented method of claim 7 wherein an edge is added between first and second nodes if a document corresponding to the first node was selected by the user corresponding to the second node.

Claim 10 (previously presented): The computer-implemented method of claim 7 wherein an edge is added between first and second nodes if a document corresponding to the first node is linked with a document corresponding to the second node.

Claim 11 (previously presented): The computer-implemented method of claim 7 wherein an edge is added between first and second nodes if a document corresponding to the first node was visited by a set of users that have visited another document corresponding to the second node.

Claim 12 (previously presented): The computer-implemented method of claim 7 wherein an edge is added between first and second nodes if a user corresponding to the first node visited a set of one or more documents also visited by another user corresponding to the second node.

Claim 13 (previously presented): The computer-implemented method of claim 7 wherein the act of inferring user profile information for the user using a topology of the graph includes

i) multiplying the initial user profile information of the user by a first value to generate a first product;

ii) multiplying user profile information of neighboring graph nodes by a second value to generate a second product; and

iii) adding the first product and the second product.

Claim 14 (previously presented): A computer-implemented method for determining user profile information for a document, the computer-implemented method comprising:

a) determining initial user profile information for the document;

b) inferring user profile information for the document;

c) determining the user profile information for the document using both the initial user profile information and the inferred user profile information;

d) associating with the document, the determined user profile information for the document; and

e) storing the association of the document with the determined user profile information for the document.

Claim 15 (previously presented): The computer-implemented method of claim 14 wherein the act of determining an initial user profile information for the document uses content information from the document.

Claim 16 (previously presented): The computer-implemented method of claim 14 wherein the act of determining initial user profile information for the document uses document meta information.

Claim 17 (previously presented): The computer-implemented method of claim 14 wherein the act of determining initial

user profile information for the document uses (i) content information from the document, and (ii) document meta information.

Claim 18 (previously presented): The computer-implemented method of claim 14 wherein the initial user profile information includes a plurality of attributes, each of the plurality of attributes having a value and a score.

Claim 19 (previously presented): The computer-implemented method of claim 18 wherein the score indicates a likelihood that the value of the attribute is correct.

Claim 20 (previously presented): The computer-implemented method of claim 14 wherein the act of inferring user profile information for the document includes

i) defining a node for each of a number of documents and for each of a number of users, wherein each node represents a particular one of the number of documents or a particular one of the number of users,

ii) adding edges between nodes if there is an association between the nodes to define a graph, and

iii) inferring user profile information for the document using a topology of the graph and user profile information of users and of other documents.

Claim 21 (previously presented): The computer-implemented method of claim 20 wherein an edge is added between first and second nodes if a document corresponding to the first

node was returned in a search results page to a search query from the user corresponding to the second node.

Claim 22 (previously presented): The computer-implemented method of claim 20 wherein an edge is added between first and second nodes if a document corresponding to the first node was selected by the user corresponding to the second node.

Claim 23 (previously presented): The computer-implemented method of claim 20 wherein an edge is added between first and second nodes if a document corresponding to the first node is linked with a document corresponding to the second node.

Claim 24 (previously presented): The computer-implemented method of claim 20 wherein an edge is added between first and second nodes if a document corresponding to the first node was visited by a set of users that have visited another document corresponding to the second node.

Claim 25 (previously presented): The computer-implemented method of claim 20 wherein an edge is added between first and second nodes if a user corresponding to the first node visited a set of one or more documents also visited by another user corresponding to the second node.

Claim 26 (previously presented): The computer-implemented method of claim 20 wherein the act of inferring user profile information for the document using a topology of the graph includes

i) multiplying the initial user profile information of the document by a first value to generate a first product;

ii) multiplying user profile information of neighboring graph nodes by a second value to generate a second product; and

iii) adding the first product and the second product.

Claim 27 (previously presented): A computer-implemented method for determining a match used for scoring an ad, the computer-implemented method comprising:

a) determining a first match value using (A) at least one of user profile information of an ad landing page of the ad and user profile information used for targeting the ad, and (B) user profile information of a user to which the ad will be rendered;

b) determining a second match value using (A) at least one of user profile information of an ad landing page of the ad and user profile information used for targeting the ad, and (B) user profile information of a document with which the ad will be served, wherein the user profile information of the document is stored in association with the document, not the user; and

c) determining the match used for scoring the ad using the first match value and the second match value.

Claim 28 (previously presented): The computer-implemented method of claim 27 wherein at least some of the user profile information of the ad landing page of the ad was inferred.

Claim 29 (previously presented): The computer-implemented method of claim 27 wherein at least some of the user profile information used for targeting of the ad was inferred.

Claim 30 (previously presented): The computer-implemented method of claim 27 wherein at least some of the user profile information of the user was inferred.

Claim 31 (previously presented): The computer-implemented method of claim 27 wherein at least some of the user profile information of the document was inferred.

Claim 32 (previously presented): The computer-implemented method of claim 27 wherein the user profile information includes

- at least one broad attribute selected from a set of broad attributes including (A) a geographic area, (B) a topic, (C) a user age range, (D) a language, and
- at least one narrow attribute selected from a set of narrow attributes including (A) words, and (B) phrases.

Claim 33 (previously presented): Apparatus for determining user profile information for a user, the apparatus comprising:

a) means for determining initial user profile information for the user using information included in past search queries submitted by the user, wherein such information is independent of documents returned as search results to the past search queries;

b) means for inferring user profile information for the user; and

c) means for determining the user profile information for the user using both the initial user profile information and the inferred user profile information.

Claim 34 (canceled)

Claim 35 (currently amended): The apparatus of claim 33 wherein the means for determining an initial user profile information for the user <u>further</u> use past document selections by the user.

Claim 36 (canceled)

Claim 37 (original): The apparatus of claim 33 wherein the initial user profile includes a plurality of attributes, each of the plurality of attributes having a value and a score.

Claim 38 (original): The apparatus of claim 37 wherein the score indicates a likelihood that the value of the attribute is correct.

Claim 39 (previously presented): Apparatus for determining user profile information for a user, the apparatus comprising:

a) means for determining initial user profile information for the user;

b) means for inferring user profile information for the user; and

c) means for determining the user profile information for the user using both the initial user profile information and the inferred user profile information, wherein the means for inferring user profile information for the user include means for

i) defining a node for each of a number of documents and the user, wherein each node represents a particular one of the number of documents or the user,

ii) adding edges between nodes if there is an association between the nodes to define a graph, and

iii) inferring user profile information for the user using a topology of the graph and user profile information of other documents.

Claim 40 (original): The apparatus of claim 39 wherein the means for adding edges adds an edge between first and second nodes if a document corresponding to the first node was returned in a search results page to a search query from the user corresponding to the second node.

Claim 41 (original): The apparatus of claim 39 wherein the means for adding edges adds an edge between first and second nodes if a document corresponding to the first node was selected by the user corresponding to the second node.

Claim 42 (original): The apparatus of claim 39 wherein the means for adding edges adds an edge between first and second nodes if a document corresponding to the first node is linked with a document corresponding to the second node.

Claim 43 (original): The apparatus of claim 39 wherein the means for adding edges adds an edge between first and second nodes if a document corresponding to the first node was visited by a set of users that have visited another document corresponding to the second node.

Claim 44 (original): The apparatus of claim 39 wherein the means for adding edges adds an edge between first and second nodes if a user corresponding to the first node visited a set of one or more documents also visited by another user corresponding to the second node.

Claim 45 (original): The apparatus of claim 39 wherein the means for inferring user profile information for the user using a topology of the graph include means for

i) multiplying the initial user profile information of the user by a first value to generate a first product;

ii) multiplying user profile information of neighboring graph nodes by a second value to generate a second product; and

iii) adding the first product and the second product.

Claim 46 (previously presented): Apparatus for determining user profile information for a document, the apparatus comprising:

a) means for determining initial user profile information for the document;

b) means for inferring user profile information for the document;

c) means for determining the user profile information for the document using both the initial user profile information and the inferred user profile information;

d) means for associating with the document, the determined user profile information for the document; and

e) means for storing the association of the document with the determined user profile information for the document.

Claim 47 (original): The apparatus of claim 46 wherein the means for determining an initial user profile information for the document use content information from the document.

Claim 48 (original): The apparatus of claim 46 wherein the means for determining initial user profile information for the document use document meta information.

Claim 49 (original): The apparatus of claim 46 wherein the means for determining initial user profile information for the document use (i) content information from the document, and (ii) document meta information.

Claim 50 (original): The apparatus of claim 46 wherein the initial user profile information includes a plurality of attributes, each of the plurality of attributes having a value and a score.

Claim 51 (original): The apparatus of claim 50 wherein the score indicates a likelihood that the value of the attribute is correct.

Claim 52 (original): The apparatus of claim 46 wherein the means for inferring user profile information for the document include means for

i) defining a node for each of a number of documents and for each of a number of users,

ii) adding edges between nodes if there is an association between the nodes to define a graph, and

iii) inferring user profile information for the document using a topology of the graph and user profile information of users and of other documents.

Claim 53 (original): The apparatus of claim 52 wherein the means for adding edges adds an edge between first and second nodes if a document corresponding to the first node was returned in a search results page to a search query from the user corresponding to the second node.

Claim 54 (original): The apparatus of claim 52 wherein the means for adding edges adds an edge between first and second nodes if a document corresponding to the first node was selected by the user corresponding to the second node.

Claim 55 (original): The apparatus of claim 52 wherein the means for adding edges adds an edge between first and second nodes if a document corresponding to the first node is linked with a document corresponding to the second node.

Claim 56 (original): The apparatus of claim 52 wherein the means for adding edges adds an edge between first and second nodes if a document corresponding to the first node

was visited by a set of users that have visited another document corresponding to the second node.

Claim 57 (original): The apparatus of claim 52 wherein the means for adding edges adds an edge between first and second nodes if a user corresponding to the first node visited a set of one or more documents also visited by another user corresponding to the second node.

Claim 58 (original): The apparatus of claim 52 wherein the means for inferring user profile information for the document using a topology of the graph include means for

i) multiplying the initial user profile information of the document by a first value to generate a first product;

ii) multiplying user profile information of neighboring graph nodes by a second value to generate a second product; and

iii) adding the first product and the second product.

Claim 59 (previously presented): Apparatus for determining a match used for scoring an ad, the apparatus comprising:

a) means for determining a first match value using (A) at least one of user profile information of an ad landing page of the ad and user profile information used for targeting the ad, and (B) user profile information of a user to which the ad will be rendered;

b) means for determining a second match value using (A) at least one of user profile information of an ad landing page of the ad and user profile information used for targeting the ad, and (B) user profile

information of a document with which the ad will be served, wherein the user profile information of the document is stored in association with the document, not the user; and

c) means for determining the match used for scoring the ad using the first match value and the second match value.

Claim 60 (original): The apparatus of claim 59 wherein at least some of the user profile information of the ad landing page of the ad was inferred.

Claim 61 (original): The apparatus of claim 59 wherein at least some of the user profile information used for targeting of the ad was inferred.

Claim 62 (original): The apparatus of claim 59 wherein at least some of the user profile information of the user was inferred.

Claim 63 (original): The apparatus of claim 59 wherein at least some of the user profile information of the document was inferred.

Claim 64 (original): The apparatus of claim 59 wherein the user profile information includes

- at least one broad attribute selected from a set of broad attributes including (A) a geographic area, (B) a topic, (C) a user age range, (D) a language, and
- at least one narrow attribute selected from a set of narrow attributes including (A) words, and (B) phrases.

Claim 65 (previously presented): The computer-implemented method of claim 14 wherein the determined user profile information is associated with the document, not with a user.

Claim 66 (previously presented): The apparatus of claim 46 wherein the determined user profile information is associated with the document, not with a user.

Claims 67 and 68 (canceled)

Claim 69 (new): The computer-implemented method of claim 1 further comprising:

d) controlling the serving of an advertisement to the user using the determined user profile information.

Claim 70 (new): The computer-implemented method of claim 7 further comprising:

d) controlling the serving of an advertisement to the user using the determined user profile information.

Claim 71 (new): The computer-implemented method of claim 14 further comprising:

f) controlling the serving of an advertisement with the document using the determined user profile information for the document stored in association with the document.

Claim 72 (new): The computer-implemented method of claim 27 further comprising:

d) controlling the serving of an advertisement with the document using the score of the advertisement.

Claim 73 (new): The apparatus of claim 33 further comprising:

d) means for controlling the serving of an advertisement to the user using the determined user profile information.

Claim 74 (new): The apparatus of claim 39 further comprising:

d) means for controlling the serving of an advertisement to the user using the determined user profile information.

Claim 75 (new): The apparatus of claim 46 further comprising:

f) means for controlling the serving of an advertisement with the document using the determined user profile information for the document stored in association with the document.

Claim 76 (new): The apparatus of claim 59 further comprising:

d) means for controlling the serving of an advertisement with the document using the score of the advertisement.